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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/470,284	12/22/1999	SCOTT PATRICK CAMPBELL	08305/062001	5973

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EXAMINER

HARRIS, TIA M

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 04/21/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/470,284

Applicant(s)

CAMPBELL, SCOTT PATRICK

Examiner

Tia M Harris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 7-9,20-27,29,32-51 and 55-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,10-19,28,30,31 and 52-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-6, 10-19, 28, 30-31, and 52-54 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 6, 10, 12, 18, 28, 30-31, and 52-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Bauer et al (hereafter referred to as Bauer) (6130448).

(Claim 1) Bauer discloses a cover for an image sensor array, the cover comprising a plate (54) formed of substantially transparent material (col 5, lines 56-57; col 6, lines 44-45) and secured adjacent to and covering the image sensor array (see fig 3), the sensor array being sealed by the plate (col 5, lines 63-65), the plate having a plurality of surfaces forming a lensing structure, such that at least one of the plurality of surfaces is contoured into a lensing surface capable of changing imaging characteristics (see fig 3; col 6, lines 42-50).

(Claim 2) Bauer further discloses the plate is made of a transparent material, which is one of glass or plastic, the plate being transparent over all, or a substantial portion of, the image sensor array (col 5, lines 56-57; see fig 3).

(Claim 3) Bauer further discloses the lensing structure is made of at least one lensing element, the lensing structure covering all or a substantial portion of the image sensor array,

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such that the at least one lensing element is formed on the lensing surface (see fig 3; col 6, lines 42-50).

(Claim 4) Bauer further discloses the at least one lensing element is a refractive lensing element in that a lensing element by definition is inherently refractive when allowing light to pass through.

(Claim 6) Bauer further discloses the refractive lensing element includes a convex lens (see fig 3).

(Claim 10) Bauer further discloses the lensing structure includes a mounting structure formed on the lensing surface of the plate, the mounting structure being arranged to secure additional lensing elements to the plate (col 6, lines 42-50; see fig 3).

(Claim 12) Bauer further discloses the mounting structure is formed by a mesa-like protrusion on the lensing surface (see fig 3).

(Claim 18) Bauer further discloses the lensing structure includes lensing elements and mounting structure arranged for attaching additional lensing elements to the plate (col 6, lines 42-50).

(Claim 28) See claim 1 above. Bauer further discloses the cover plate is flat and substantially transparent with a contoured lensing surface (see figs 2 and 3; col 5, lines 56-57).

(Claims 30-31) Bauer further discloses the lensing structure is attached to the cover plate, wherein the lensing structure and the cover plate are injection molded as a single-piece structure (see fig 3).

(Claim 52) See the rejection of claims 1 and 28 above. Bauer further discloses the cover plate is placed in an optical path of the camera system (col 5, lines 39-40).

(Claim 53) See the rejection of claim 4 above.

(Claim 54) See the rejection of claim 1 above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 11, 13, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer in view of Izumi (5400072).

(Claim 5) Bauer discloses a cover for an image sensor array as discussed above, and further discloses that window (48) may be constructed to incorporate one or more lenses as shown by (54), and also allow multiple lenses of differing material to be placed over sensor (22) (col 6, lines 42-50). Bauer does not specifically disclose the multiple refractive lensing elements include a concave lens.

Izumi discloses a cover for an image sensor array wherein a lensing structure covering sensor chip (64) includes multiple refractive lensing elements that further include concave lenses (see fig 1A).

It would have been obvious to one having ordinary skill in the art at the time the invention was made that combining a plurality of lenses to obtain a desired image is well known as taught by Bauer and Izumi, and it is further well known that at least one of the lenses would be a concave lens as taught by Izumi.

(Claim 11) Izumi further discloses the lensing structure also includes an alignment mark, formed on the lensing surface, to guide the additional lensing elements being attached to the plate. That is, the lenses are stacked so that the outer edges are lined up; the outer edges serve as the alignment mark (see fig 1A).

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(Claim 13) Izumi further discloses the mounting structure is formed by a ringed-wall structure having an inside wall and an outside wall, the ringed-wall structure formed on the lensing surface (ringed-wall structure since the device is circular; see figs 1B and 2B).

(Claim 19) Izumi further discloses an alignment mark, formed on the lensing surface, to guide the additional lensing elements being attached to the plate. That is, the lenses are stacked so that the outer edges are lined up; the outer edges serve as the alignment mark (see fig 1A).

6. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer in view of Izumi as applied to claim 13 above, and further in view of Ogihara (3620149).

(Claim 14) The combined invention of Bauer and Izumi discloses a cover for an image sensor array as disclosed above, but does not specifically disclose a threaded retaining ring on the inside wall of the cover for firmly attaching the additional lensing elements to the plate.

Ogihara discloses a threaded type coupling device for coupling a lens barrel with a camera body wherein a threaded retaining ring (32) on the inside wall of the mounting structure is used for firmly attaching the additional lensing element (lens barrel) to the mounting structure (see fig 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the threaded retaining ring in the manner taught by Ogihara into the mounting structure of Bauer and Izumi to provide a simpler construction, easier manufactured and less costing mounting structure that is used when attaching additional lensing elements.

(Claim 15) Izumi further discloses a threaded retaining ring on the outside wall for firmly attaching the additional lensing element to the plate (see fig 2A).

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(Claim 16) Izumi further discloses the mounting structure is formed by a well-like depression on the lensing surface (the well-like depression is formed, for example, between lenses L3 and L4, between the actual lensing element (of L4 for example) and the rib (21 for example)).

(Claim 17) Although Izumi illustrates the lenses mounted on top of one another as shown in fig 2A (for example), it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a threaded retaining ring on the inside wall of the depression of Izumi for firmly attaching the additional lensing element to the plate, in the manner taught by Ogihara (see fig 1), to provide a simpler construction, easier manufactured and less costing mounting structure that is used when attaching additional lensing elements and also to allow for an easier way of adjusting the focus of the lensing elements.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maurinus (5302778) discloses a semiconductor insulation for optical devices. Shimomura (4055761) discloses a light receiving device for a photoelectric conversion element.
8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tia M Harris whose telephone number is 703-305-4807. The examiner can normally be reached on M-F 8:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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